



Analysis Factors Affecting Social Economy and Demography of Income Waste Bank Customer in Badung Regency Bali Province

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Abstract

The goal of every human to achieve welfare by increasing people's income. The waste bank program is one solution to increase people's income with the concept of community empowerment to overcome waste problems. This study aims to analyze: 1) the influence of education level, family size, employment status and perception of the benefits waste banks to the participation waste bank customers, 2) the influence of education level, family size, employment status, perception of the benefits waste banks and participation waste bank customers to income waste bank customers, 3) participation waste bank customers in mediating the influence of education level, family size, employment status and perception of the benefits waste banks to income waste bank customers. This study uses primary data, namely questionnaires and in-depth interview with waste banks customers in Badung Regency, Bali Province. Sampling was done by proportional sample technique in 95 respondents. The analytical tool used is descriptive analysis and path analysis. The results showed that: 1) the level of education, family size, and perception of the benefits waste banks have a positive and significant effect to the participation waste bank customers, 2) waste bank customers with informal jobs have higher participation than waste bank customers with formal jobs, 3) education level, family size, perception of the benefits waste banks, and participation of waste bank customers have a positive and significant effect to the income waste banks customers, 4) waste bank customers with informal jobs have higher waste bank income than waste bank customers in formal jobs, 5) participation of waste bank customers in mediating the influence of education level, family size, employment status, and perception of the benefits waste banks to income waste bank customers.

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Government of Badung Regency need to socialize the waste banks program to people society, adding new staffs of waste banks in every banjar, waste banks need to make waste processing for wet waste, providing financial assistance and high rewards appreciation to the waste banks.

Keywords: social economy demography; income; waste bank.

1. Introduction

The goal of every human to achieve welfare by increasing people's income. The waste bank program is one solution to increase people's income with the concept of community empowerment to overcome waste problems. A waste bank is a place for sorting and collecting waste that can be recycled or reused to produce economic value [1]. Indonesia is one of the regions developing countries in Southeast Asia. The Government of Indonesia intensively implemented national development that is multidimensional or covers various aspects. Development is an effort to consciously utilize the environment in order to meet the needs of human life to improve well-being [2]. Regional development and the environment have links in economic activities. Economic and environmental activities often occur imbalances, where economic development tends to lead exploitation of natural resources. Development that is carried out continuously has a negative impact on the environment, increasing landfill waste [3]. The waste bank program is an implementation of the green economy concept in sustainable development, the idea of economics enhancing the welfare and social equality of the people, while reducing the risk of significant environmental damage.

Uncontrolled population growth and urban shifts can increase landfill waste [4]. The total population of regencies / cities in Bali Province in 2016 was 4.200 million people [5]. The volume of waste per day in the Regency / City of Bali Province in 2017 is 11.370 m³ / day. The total waste in Badung Regency, Bali Province in 2017 was 2.076 m³ / day [6]. Badung Regency is one of the areas with the highest population and waste in Bali Province. The construction of tourist attractions in Badung Regency only focus on improve the regional economy, but overrides aspects of environmental sustainability. Continuous construction of homestays, villas, hotels and restaurants will increase household waste piles every day. Badung Regency has 6 Districts, Mengwi, Abiansema, South Kuta, North Kuta, Kuta and Petang. Badung Regency is an emergency waste area that must be overcome because this is icon of International tourism in Bali Province and Indonesia. Community empowerment in processing waste is very necessary, known as Reduce, Reuse and Recycle (3R). The 3R activity faced the main obstacle, namely the low awareness of the community to sort waste [7]. Palembang's philosophy of Tri Hita Karana makes Balinese people aware of the importance of environmental hygiene as manifestation of devotion and obedience to religious. Badung Regency has 17 waste banks. The total customers waste bank is 1.942 people. Legian Village has 3 waste banks, Kerobokan Village has 2 waste banks, Penarungan Village has 3 waste banks, Canggu Village has 2 waste banks, Sempidi Village, Petang Village, Gulingan Village, Seminyak Village, Kuta Village, Pecatu Village, and Tibubeneng Village respectively 1 waste bank.

The income of waste bank customers is influenced by social economy and demography condition. The higher level education of waste bank customers, the awareness of community participation in the waste bank program

will increase income of the waste bank customers. Family size, which is the increasing number of family members, means that the economic burden by the family is getting heavier and will make the head of family increase income [8]. A productive worker clearly participated and been active in development, including a waste bank program [9]. Perception of the benefits of waste banks have a positive and significant effect on waste bank program, better perceptions of waste bank program will increase their participation and income [10]. Community participation can reduce waste environment and increase their income with waste bank program [11].

2. Literature Review

2.1 Concept of Income

Income are gross inflows of economic benefits arising from normal activities during a period, if inflows result in increases in equity that do not originate from investment contributions [12]. According to Milton Friedman, people's income is divided into two, namely permanent income and transitory income. Permanent income is: 1) Income that is always received at a certain period and can be estimated beforehand, for example salaries or wages, 2) Income earned from all factors that determine one's wealth (which creates wealth). Transitory income is income that cannot be predicted beforehand [13].

2.2 Community Participation

Participation is real and voluntary involvement of the community in development programs to control existing resource institutions and social institutions [14]. Participation also means giving contributions and participating in determining the direction or goal to be achieved, which is more emphasized on the rights and obligations for everyone. Community participation includes the participation, involvement and similarity of community members both directly and indirectly, from ideas, policy formulation, program implementation and evaluation [15].

2.3 Community Empowerment

Community empowerment is a strategy used in community development as an effort to realize capabilities and independence in community, nation and state life [16]. Community empowerment is expected to give roles to individuals not as objects, but as actors that determine their lives [17]. Community empowerment has an important function, because without community empowerment the administration of government will not run optimally [18].

2.4 Green Economy

Definition of green economy according to letter Number 0317 / P.01 / 01/2013 issued by the Ministry of National Development Planning, namely a new economic order that uses less energy and natural resources The green economy concept in sustainable development namely, economic ideas that aims to improve the welfare and social equality of the community, while reducing the risk of significant environmental damage. Green economy as an economic activity capable of increasing welfare, social justice and reducing the negative impact

of economic growth on the environment and scarcity of natural resources [19].

2.5 Tri Hita Karana

Tri Hita Karana are three causes of happiness. Happiness will be realized if we have been able to realize harmony. Harmony is a relationship that is in harmony and balance between man and God (Prahyanan) emphasizing more so that humans maintain their cleanliness and purity both physically and spiritually and always get closer to him through tri sandhya, tirtayatra, yoga and samadi. Human relations with others (Pawongan) this relationship underlies compassion, mutual help and tolerance. The relationship between humans and the environment (Palemahan) emphasizes the ability of humans to maintain, maintain and improve the quality of their environment[20].

2.6 Waste Management

Waste is the rest of human daily activities and from solid natural processes. Waste management is a series of garbage handling activities that involve sorting (grouping and separating waste from waste sources into TPS or integrated waste management sites), transportation (activities to move waste from sources, TPS or integrated waste management sites), final acyl processing (changing forms, composition, characteristics and amount of waste for further processing) [21].

2.7 Waste Bank Program

Minister Environment of Republic Indonesia Number 13 of 2012, concerning Guidelines for Implementation of Reduce, Reuse and Recycle. Waste bank is a place for sorting and collecting waste that can be recycled or reused to produce economic value. Waste bank is a place to save waste that has been sorted according to the type of waste. Waste bank is a work unit waste processing from its source, then collected and sell it to third parties [22].

2.8 Social Economy and Demography

Education level indicators consist of education levels and departmental suitability.

The level of education is the stage of education that is set based on the level of development of students, the objectives to be achieved, and the capabilities developed include: 1) Basic education: early education for the first nine years of schooling for children who underlie secondary education , 2) Secondary education: advanced education in basic education, 3) Higher education: education level after secondary education which includes undergraduate, master, doctoral, and specialist programs organized by universities [23].

The family size is the number of family members consisting of wives, children, and other people who participate in the family or live in one house and eat together which is borne by the family head.

The size of the family influences the willingness to do work and earn income to support the family. According

to Badan Pusat Statistik, employment status provides an overview of their position in employment and reflects how much they active role in economic activity.

From the main employment status category, formal workers cover the business category with the help of permanent workers and the category of workers / employees, include informal workers. Perception of environment is important in determining the actions of individuals to participate in an activity. Positive perceptions of the benefits will increase the participation and then increase their income waste bank.

3. Research Methodology

Based on the empirical study, the hypothesis can be formulated to provide direction for research analysis:

- 1) the level of education, family size, and perception of the benefits waste banks have a positive and significant effect to the participation waste bank customers in Badung Regency, Bali Provinc.
- 2) waste bank customers with informal jobs have higher participation than waste bank customers with formal jobs.
- 3) education level, family size, perception of the benefits waste banks, and participation of waste bank customers have a positive and significant effect to the income waste banks customers in Badung Regency, Bali Province.
- 4) waste bank customers with informal jobs have higher waste bank income than waste bank customers in formal jobs.
- 5) participation of waste bank customers in mediating the influence of education level, family size, job status, and perception of the benefits waste banks to income waste bank customers in Badung Regency Bali Province.

This study uses primary data sources, namely structured interviews and in-depth interviews directly to elderly workers. The sampling technique was done purposively on 95 respondents. It analyzed by descriptive and path analysis processed with SPSS. The structural equation for path analysis is as follows:

$$Y1 = \beta1 X1 + \beta2 X2 + \beta3 X3 + \beta4 X4 + \epsilon1 \quad (1)$$

$$Y2 = \beta5X1 + \beta6 X2 + \beta7 X3 + \beta8 X4 + \beta9Y1 + \epsilon2 \quad (2)$$

Where, Y1 = participation, Y2 = income waste bank customers, X1 = education level, X2 = family size, X3 = job status, X4 = perception, $\beta1$ to $\beta9$ = Path Coefficient , and $\epsilon1, \epsilon2$ = Structural error (structural error).

The research model can be seen in Figure 1 below :

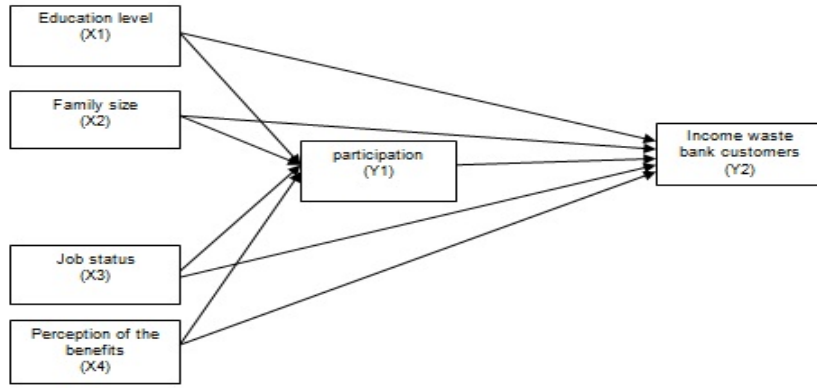


Figure 1: Research Concept

To test how much variable intervening mediates the influence of independent variables on dependent variable is used Sobel test. Where Sobel test uses z test with the following formula:

$$z = \frac{ab}{\sqrt{b^2 S_a^2 + a^2 S_b^2}} \quad (3)$$

Where: a = coefficient of regression of independent variable to regression variable, b = regression coefficient of mediation variable to dependent variable, S_a = standard error of estimation from influence of independent variable to mediation variable, S_b = standard error of estimation from influence of mediation variable to dependent variable.

4. Result and Discussion

Based on 95 waste bank respondents in Badung Regency, there were 38 male and female 57 respondents. The waste bank program is managed by PKK administrators or female every banjar. The role of women who are attached to household activities that produce waste such as when cooking, so that women are more sensitive to waste problems. The collected questionnaire data stated that 20-30 years old are 16 people. The age of 31-40 years are 20 people. The age range of 41-50 years are 44 people. Ages 51-60 years are 15 people. The data shows the average waste bank customer in the productive age. Waste bank customers who have been active since 1 year ago were 16 people, active since 2 years ago were 40 people, then since 3 years ago are 24 people and active since 4 years ago are 15 people. The length of time respondents joined the waste bank shows respondents have benefited for at least 6 months. Waste bank customers with a level of elementary education are 3 people, middle school level are 10 people, high school / equivalent level are 63 people and University level are 19 people. The data shows that the majority waste bank customers are at the high school and University education level, because Indonesia applies the 12-year compulsory education. Respondents who have family members totaling 1-5 people are 74 people and waste bank customers who have family members totaling 6-10 people are 21 people.

Formal job of waste bank customers 32 people and 63 people in the informal sector. The formal sector of waste bank respondents includes PNS, BUMN, BUMD and private employees and the informal sector includes entrepreneurs, traders, laborers and tailors. The existence of the informal sector is more as a waste bank customer because it is a producer and is directly involved in waste, such as traders and entrepreneurs who produce a lot of waste every day and this informal sector has more free time for waste management. Perceptions of the benefits waste bank in the questionnaire with Likert scale there are number 1 is very disagree, number 2 is disagree, number 3 is neutral, number 4 is agree and number 5 is strongly agree. All statements in this questionnaire are of high value namely agree and strongly agree, this means that waste bank respondents already understand and feels the benefits of the existence of this waste bank. Frequency of participation waste bank customers in 1-5 times / month are 74 people and in 5-10 times / month are 21 people. The more often waste bank customers participate in the waste bank program, the higher income of the waste bank customers themselves. Income of waste bank customers every month is IDR 10,000 - 50,000 are 24 people, IDR 51,000 - 100,000 are 43 people, IDR 101,000 - 150,000 are 24 people, IDR 151,000 - 200,000 are 3 people and income more than 200,000 is 1 people. The average income of waste bank customers in Badung Regency, Bali Province is IDR 84,115,000/month. Total income for 6 months is IDR 504,700. This shows that the average income of waste banks is quite high in the waste bank in Badung Regency, Bali Province.

Education level has a positive and significant effect to participation of waste bank customers. This is indicated by a coefficient of 0.198 and a significant level of less than 0.05, namely a P-value of 0.029. Family size has a positive and significant effect to participation of waste bank customers. This is indicated by a coefficient of 0.289 with a significance level of less than 0.05, namely with a P-value of 0.002. Job status has a significant effect to participation of waste bank customers. This is indicated by a coefficient of 0.405 and a significant level of less than 0.05, namely with a P-value of 0,000. Perceptions of the benefits waste banks have a positive and significant effect to participation waste bank customers. This is indicated by a coefficient of 0.306 and a significant level of less than 0.05, namely with a P-value of 0.002. The level of education has a direct effect value of 0.154 and an indirect effect of 0.035 on the income of customers of waste banks. The family size has a direct effect value of 0.141 and an indirect effect of 0.050 on the income of customers of the waste bank. Job status has a direct influence value of 0.386 and an indirect effect of 0.071 on the income of customers of waste banks. Perceptions of the benefits waste banks have a direct effect value of 0.488 and an indirect effect of 0.054 on the income of customers of waste banks.

Based on the results of the Sobel test it can be concluded that the variable participation of waste bank customers (Y1) mediates the effect of education level (X1), family size (X2), job status (X3) and perceptions of the benefits waste bank (X4) and waste bank income (Y2). The variable of customer participation in this waste bank is an intervening variable that mediates partially because it has been proven to mediate positively and significantly on all variables.

5. Conclusion and Recommendations

The purpose of this study is to analyze the factors affect of waste bank income customers. The result shows that the level of education, family size, and perception of the benefits waste banks have a positive and significant

effect to the participation waste bank customers in Badung Regency, Bali Province. Waste bank customers with informal jobs have higher participation than waste bank customers with formal jobs. Education level, family size, perception of the benefits waste banks, and participation of waste bank customers have a positive and significant effect to the income waste banks customers in Badung Regency, Bali Province. Waste bank customers with informal jobs have higher waste bank income than waste bank customers in formal jobs. Participation of waste bank customers in partial mediating the influence of education level, family size, job status, and perception of the benefits waste banks to income waste bank customers in Badung Regency Bali Province.

Based on the findings in the field as for suggestions that can be given: Government of Badung Regency need to socialize the waste banks program to people society, adding new staffs of waste banks in every banjar, waste banks need to make waste processing for wet waste, providing financial assistance and high rewards appreciation to the waste banks.

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